UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/965,187	09/25/2001	Samir S. Soliman	010107	2812

23696 7590 01/31/2007
QUALCOMM INCORPORATED
5775 MOREHOUSE DR.
SAN DIEGO, CA 92121

EXAMINER	
RAMAKRISHNAIAH, MELUR	
ART UNIT	PAPER NUMBER
2614	

SHORTENED STATUTORY PERIOD OF RESPONSE	NOTIFICATION DATE	DELIVERY MODE
3 MONTHS	01/31/2007	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Notice of this Office communication was sent electronically on the above-indicated "Notification Date" and has a shortened statutory period for reply of 3 MONTHS from 01/31/2007.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

us-docketing@qualcomm.com
kascanla@qualcomm.com
t_ssadik@qualcomm.com

Office Action Summary	Application No.	Applicant(s)	
	09/965,187	SOLIMAN, SAMIR S.	
	Examiner	Art Unit	
	Melur Ramakrishnaiah	2614	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *17 January 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-24,32,35 and 36* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-24, 32, 35, 36* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-3, 8-11,15-19, 23, 32, 35, 36, are rejected under 35 U.S.C 102(e) as being anticipated by Raith (WO 01/63960).

Regarding claim 1, Raith discloses a wireless communication system comprising: a first transceiver in (12, fig. 1), a second transceiver in (12, fig. 1), a third transceiver in (20, fig. 1) in communication with the first transceiver, and a controller (not shown) configured to effectuate a soft handoff from the first transceiver to the second transceiver using a set of optimum parameters that are determined based on a current position of the third transceiver (20, fig. 1, page3, line 1 – page 4, line 4; figs. 1-2).

Regarding claim 8, Raith discloses a mobile unit comprising: a receiver in (20, fig. 1) configured to receive set of optimum system access parameters determined on a current position of the mobile unit (this is implied as the reference teaches using position of mobile communicate device to optimize handovers), a controller (not shown) to effectuate a soft handoff from first base station (12, fig. 1) to a second base station (like 12, fig. 1) based on the received set of optimum soft-handoff parameters (20, fig. 1, page3, line 1 – page 4, line 4; figs. 1-2).

Regarding claim 15, Reith discloses a base station comprising: a transmitter unit in (12, fig. 1) configured to transmit to the mobile unit (20, fig. 1) a set of optimum soft-handoff parameters determined based on a current position of the mobile unit in a first coverage area (fig. 1) and a controller in (12, fig. 2) configured to effectuate a soft handoff from the first coverage area to a second coverage area based on the set of optimum soft-handoff parameters (page 7 lines 19-24; page 3 lines 3-20; page 8, lines 2-4, lines 14-15; page 9 lines 1-21)

Regarding claim 23, Reith discloses a method for effecting soft handoff, comprising: determining a set of optimum parameters based on the current position of the mobile unit (20, fig. 1), and effectuating a soft handoff from the first coverage area to a second coverage area (see fig. 1) using a set of optimum parameters (page 3, line 7 – page 4, line 4; figs 1-2).

Regarding claims 32, 35, 36, Reith discloses a computer readable medium embodying a method for effectuating soft handoff, the method comprising: determining optimum parameters based on the current position of the mobile unit (20, fig. 1), and effectuating a soft handoff from the first coverage area to a second coverage area using the set of optimum parameters (page 3, line 7 – page 4, line 4; figs 1-2), a memory unit in (26, fig. 2) and a digital signal processing (DSP) unit communicatively coupled to the memory unit, the DSP (reads on GPS 50, fig. 2) being capable of determining a current position of mobile unit in a first coverage area (page 9 lines 1-8).

Regarding claims 2-3, 9-11, 16-18, Reith further teaches the following: controller is configured to determine the current position of the mobile unit (20, fig. 1), current position includes a position of cell /sector coverage area (page 9 lines 1-13).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 4-6, 12-13, 19-22, 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Reith in view of Huang et al. (US PAT: 6,594,243, hereinafter Huang).

Reith differs from claims 4-6, 12-13, 20-22, 24 in that it does not specifically teach the following: determining optimum system access parameters and optimum soft handoff parameters.

However, Huang discloses methods and apparatus for enhanced handover in a CDMA wireless communication system which teaches the following: determining optimum system access parameters (for example T_ADD, T_DROP) and optimum soft handoff parameters (for example SNR) to effect enhance soft handoffs (col. 3, line 38 – col. 6, line 48).

Thus, it would have been obvious to one of ordinary skill in the art at the time invention was made to modify Reith's system to provide for the following: determining optimum system access parameters and optimum soft handoff parameters as this

arrangement would facilitate to effect optimum handoff of mobile terminal between the base stations as taught by Huang (col. 2 lines 38-46).

5. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Reith in view of Shi (US PAT: 6,507,740, filed 5-18-2005).

Regarding claim 7, Raith discloses a mobile unit comprising: a receiver in (12, fig. 1) configured to receive set of optimum system access parameters determined on a current position of the mobile unit (this is implied as the reference teaches using position of mobile communicate device to optimize handovers), a controller (not shown) configured to control mobile unit based on the received set of optimum system access-parameters (20, fig. 1, page3, line 1 – page 4, line 4; figs. 1-2).

Regarding claim 14, Reith discloses a base station comprising: a transmitter unit (12, fig. 1) configured to transmit set of optimum system-access parameters determined based on the current position of a mobile unit (20, fig. 1), and a controller 1n (12, fig. 1) configured to control the mobile unit based on the set of optimum system access parameters (page 7 lines 19-24; page 3 lines 3-20; page 8, lines 2-4, lines 14-15; page 9 lines 1-21).

Raith differs from claims 7 and 14 in that although he teaches that handover can be made seamless (which reads on effecting soft handoff: page 3 lines 19-20), he does not explicitly describe this as soft handoff.

However, Shi discloses adaptive threshold of handoff in mobile telecommunication systems which teaches the following: In a soft or "seamless" handoff

case, the mobile has two or more links with different base stations that are involved in handoff process (fig. 1, col. 1 lines 46-53).

Thus, it would have been obvious to one of ordinary skill in the art at the time invention was made to recognize seamless handoff as equivalent process to soft handoff as explained by Shi so that user of the mobile communication system does not experience any break in communications.

Response to Arguments

6. Applicant's arguments filed on 11-17-2006 have been fully considered but they are not persuasive

Rejection of claims 1-3, 7, 8-11, 14, 15-19, 23, 32, 35, 36, under 35 U.S.C 102(e) as being anticipated by Raith (WO 01/63960): Regarding rejection of claim 1, Applicant argues that "the Raith reference discloses a handoff technique commonly referred to as "hard handoff" wherein a mobile terminal is connected to only one base station at a time and therefore needs to drop the radio link for a brief period of time before being connected to a different, stronger transmitter. Such a handoff technique is in distinct contradiction to a "soft handoff" techniques, as claimed by Applicants, wherein a mobile terminal adds a sufficiently strong sector to active set. It is also called ... as "make before break" handoff". Contrary to applicant's interpretation of Raith reference, Raith clearly teaches the following: The mobile terminal tunes to the newly assigned channel during one of the idle periods so there is interruption in transmission. Thus, from the user's perspective, the handover can be made seamless (page 3 lines 17-20). Since Raith clearly teaches his handoff method is seamless, the clearly reads on applicants

soft handoff claimed by the applicant. To further explain this, Shi discloses adaptive threshold of handoff in mobile telecommunication systems which teaches the following: In a soft or "seamless" handoff case, the mobile has two or more links with different base stations that are involved in handoff process (fig. 1, col. 1 lines 46-53). In light of this seamless handoff reads on applicant's soft handoff claimed by the applicant. Therefore rejection of claim 1 is maintained based on anticipation by Raith.

Applicant's arguments regarding amended claim 7 are moot see the new rejection.

Regarding rejection of claim 8, Applicant argues that "Applicant's herein sustain the above-proffered arguments relating to specific disclosure of Raith reference. As stated above and in contrast to Applicants' invention as claimed, the Raith reference discloses a handoff technique commonly referred to as a "hard handoff". Such a handoff technique is in contradiction to a "soft handoff" technique, as claimed by Applicants. Contrary to applicant's interpretation of Raith reference, Raith clearly teaches the following: The mobile terminal tunes to the newly assigned channel during one of the idle periods so there is interruption in transmission. Thus, from the user's perspective, the handover can be made seamless (page 3 lines 17-20). Since Raith clearly teaches his handoff method is seamless, this clearly reads on applicants soft handoff claimed by the applicant. To further explain this, Shi discloses adaptive threshold of handoff in mobile telecommunication systems which teaches the following: In a soft or "seamless" handoff case, the mobile has two or more links with different base stations that are involved in handoff process (fig. 1, col. 1 lines 46-53). In light of

this seamless handoff reads on applicant's soft handoff claimed by the applicant. Therefore rejection of claim 8 is maintained based on anticipation by Raith.

Applicant's arguments regarding amended claim 14 are moot see the new rejection.

Regarding rejection of 15, Applicants argues that "Raith reference does not describe, either expressly or inherently, Applicant's identical inventions in as complete detail as are contained in the claims. Specifically, the Raith reference does not describe in as complete details " a transmitter unit ... and a controller configured to effectuate a soft handoff from the first coverage area based on the set of optimum soft-hand0ff parameters", as claimed by Applicants in independent claim 15 from which claims 16-19 depend". Contrary to applicant's interpretation of Raith reference, he clearly teaches using parameters such as location of mobile terminal to optimize handovers (page 4 lines 1-4) and he further teaches handoff that is seamless which as explained above in responding to applicant's arguments in rejection of claim 1 reads on applicant's soft handoff. Therefore, Raith clearly teaches the limitation of claim 15 as claimed by the applicant and rejection of claim 15 is maintained.

Regarding rejection of claim 23, Applicant argues that "Specifically, the Raith reference does not describe in as complete detail "determining a set of optimum parameters based on the current position of the mobile unit; and effecting a sift handoff from the first coverage area to a second coverage area using set of optimum parameters", as claimed by the applicants in independent claim 23". Contrary to applicant's interpretation of Raith reference, he clearly teaches using parameters such

as location of mobile terminal to optimize handovers (page 4 lines 1-4) and he further teaches handoff that is seamless which as explained above in responding to applicant's arguments in rejection of claim 1 reads on applicant's soft handoff. Therefore, Raith clearly teaches the limitation of claim 23 as claimed by the applicant and rejection of claim 23 is maintained.

Regarding rejection of claims 32, 35, 36, Applicant argues that "Specifically, the Raith reference does not describe in as complete detail "[] determining a set of optimum parameters based on the current position of the mobile unit, and [] effecting a softhandoff from the first coverage area to a second coverage area using the set of optimum parameters", as claimed by Applicants in independent claims 32, 35 and 36". Contrary to applicant's interpretation of Raith reference, he clearly teaches using parameters such as location of mobile terminal to optimize handovers (page 4 lines 1-4) and he further teaches handoff that is seamless which as explained above in responding to applicant's arguments in rejection of claim 1 reads on applicant's soft handoff. Therefore, Raith clearly teaches the limitation of claims 32, 35 and 36 as claimed by the applicant and rejection of claims 32, 35 and 36 is maintained.

Regarding rejection of dependent claims 4-6, 12, 13, 19-22, and 24 under 35 U.S.C 103(a), Applicants arguments are linked to independent claims being allowable which are not as explained above. Therefore their rejection is maintained as set forth in the office action above.

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Melur Ramakrishnaiah whose telephone number is (571)272-8098. The examiner can normally be reached on 9 Hr schedule.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Curt Kuntz can be reached on (571) 272-7499. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Melur Ramakrishnaiah
Primary Examiner
Art Unit 2614